

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
31 December 2003 (31.12.2003)

PCT

(10) International Publication Number
WO 2004/001287 A1

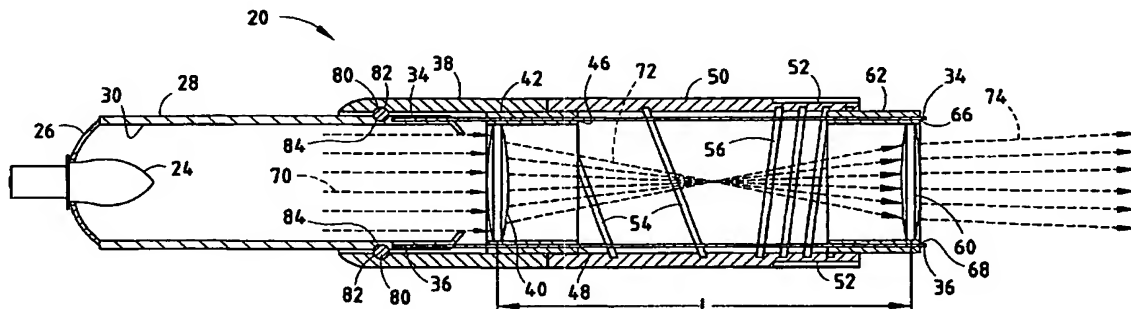
- (51) International Patent Classification⁷: **F21V 14/06**, F21L 4/00
- (74) Agent: **FRASER, Stewart, A.**; Eveready Battery Company, Inc., 25225 Detroit Road, P.O. Box 450777, Westlake, OH 44145 (US).
- (21) International Application Number:
PCT/US2003/019384
- (81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (22) International Filing Date: 20 June 2003 (20.06.2003)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
60/390,177 20 June 2002 (20.06.2002) US
- (84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- (71) Applicant (*for all designated States except US*): **EVEREADY BATTERY COMPANY, INC.** [US/US]; 25225 Detroit Road, P.O. Box 450777, Westlake, OH 44145 (US).
- (72) Inventor; and
- (75) Inventor/Applicant (*for US only*): **ALESSIO, David, J.** [US/US]; 279 North Woodhill Drive, Amherst, OH 44001 (US).

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: LIGHTING DEVICE WITH ADJUSTABLE SPOTLIGHT BEAM



(57) **Abstract:** A lighting device (10) has a light source, a light pipe (28), two convex magnifying lenses (40, 60), and an adjusting mechanism (20) for moving the two magnifying lenses (40, 60) relative to the light source. The light emitted from the light source is dispersed and directed into the light pipe (28) by a reflector (26). The light pipe (28) transfers collimated light through the first (40) and second (60) magnifier lenses which redirects the light to produce a circular spotlight beam having uniform intensity. The size of the spotlight beam is adjusted by an adjusting mechanism (20).

WO 2004/001287 A1